

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Intermountain Leasing, Inc.
Well Name/Number: Fitzgerald 16-7
Location: SE SE Section 7 T6S R36E
County: Big Horn, **MT;** **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 10 to 14 days drilling time.

Unusually deep drilling (high horsepower rig): No, double derrick drilling rig to drill to 6300' TD.

Possible H₂S gas production: Slight

In/near Class I air quality area: Yes, within the Crow Indian Reservation.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns – using a double derrick drilling rig to drill to 6300' TD.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system.

High water table: No high water table.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary to the Little Big Horn River, about 1/8 of a mile to the north of this location. The Little Big Horn River is about 1/2 of a mile to the west from this location.

Water well contamination: Closest water wells are about 1/2 of a mile to the south, 5/8 of a mile to the southwest and 3/4 of a mile to the northwest from this location. Depth of these domestic water and stock water wells range from 900' to 93'.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: No Class I stream drainages nearby.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 300' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used. Long string will be cemented back to surface from 6300'.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None anticipated.

High erosion potential: Yes, moderate cut, up to 11.6' and moderate fill, up to 18.6', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, large wellsite, 200'X240' location size required.

Damage to improvements: Slight, surface use is grassland.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other Requires DEQ General Permit for Storm Water Discharge

Comments: Will use exiting Interstate 90, existing county road and existing well access road. Will build about 720' of new access road into this location. Drilling fluids will be allowed to dry in the lined reserve pit. Cuttings will be buried in the line reserve pit when pit has dried. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Nearest public facilities are the cemetery, about 5/8 of a mile to the west and the State Highway Department shop about 1/2 of a mile to the south from this location. Closest residences are about 5/8 to 3/4 of a mile to the west and about 1.25 miles to the southeast from this location. The town of Lodgegrass is about 1 mile to the southwest from this location.

Possibility of H2S: Slight.

Size of rig/length of drilling time: Double derrick drilling rig/short 10 to 14 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate surface casing and operational BOP should mitigate any concerns. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: None

Threatened or endangered Species: The only threatened or endangered species listed is the Black-footed Ferret. Candidate species is the Greater Sage Grouse.

Proposed species is the Mountain Plover. FWP listing Black-tailed prairie dog, Great Blue Herron, Veery and Loggerhead Shrike as sensitive species.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Private surface lands. Black-tailed ferret habitat would be grasslands associated with prairie dog towns, this location is a grassy ridge top. Greater Sage Grouse habitat would be sagebrush prairie, Great Blue Herron and Veery habitat is riparian forest, this location is on top of a grassy ridge top. Loggerhead Shrike habitat is shrubland this location is on top of a grassy ridge. Black tailed prairie dog habitat is grasslands prairie, this location is on top of a grassy ridge top. No concerns

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: Private surface lands. No concerns.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: No concerns.

Remarks or Special Concerns for this site

Well is a 6300' Tensleep Formation test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected, some short term impacts are expected, but can be mitigated.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector
Date: October 1, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Big Horn County water wells

(subject discussed)

September 30, 2010

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES

MONTANA COUNTIES, Big Horn County

(subject discussed)

September 30, 2010

(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, Section 7 T6S R36E

(subject discussed)

October 1, 2010

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____